REMARKS/ARGUMENTS

Claims 1-17 and 28-30 are pending in this application and stand rejected under 35
U.S.C. §103 (a) as allegedly being unpatentable over U.S. Patent 6,282,538 ("Woods") in
view of U.S. Patent 6,282,538 ("Curtis"). Applicants respectfully disagree and request
reconsideration of the present application in light of the below recited remarks.

The present application discloses systems and methods for query refinement to
enable improved searching based on identifying and utilizing popular concepts related to
user's queries. More specifically there is disclosed:

> "In a method of one embodiment, a query is received from a user, and
> then mapped to one or more search concepts. A list of search concepts
> associated with the query is then displayed. Alternatively or
> additionally, the search concepts associated with the query are used to
> provide a set of improved search results instead of being displayed.
> (Application, Summary of the invention)."

Thus, the present application discloses generating improved search results by performing a
query refinement ***prior to executing a search***. During the query refinement, an original
query term may be matched to a search concept term that is more closely related to the user's
intent. An improved search may then be performed using the search concept term rather than
the original query term. For example, a user wishing to find information about George Bush
Jr. may enter an original query "George Bush". Such an original query, if executed, will
return results about both George Bush Jr. and George Bush Sr. The present invention may,
prior to execution of the query, match the original query to two search concepts: "George
Bush Jr." and "George Bush Sr.". The user may then execute an improved search using the
search concept term "George Bush Jr." rather than the original query term "George Bush".
The improved search will generate improved results by targeting the search to George Bush
Jr.

Woods discloses a method and apparatus for generating query responses in a
computer based document retrieval system. More specifically there is disclosed:

> "The method locates compact regions ("hit passages") within a text that
> match a query to some measurable degree, such as by including terms that
> match terms in the query to some extent ("(entailing) term hits"), and ranks
> them by the measured degree of match (Woods, Summary of the Invention)."

Thus, Woods discloses *executing a search* by locating search results that are portions of documents (i.e. hit passages) rather than entire documents. Such hit passages match a query to some pre-determined extent. ***Importantly, Woods does not teach or suggest query refinement.***

Curtis discloses a search engine an indexing method for storing and retrieving data. More specifically there is disclosed:

> "An index file contains locations of data items, pointers to other index files, or an empty designation. The index files are arrays that contain locations corresponding to a predetermined range of characters with which the data items may be formed. Data items are stored according to the character strings of each data item (See Curtis, Abstract)."

Thus, Curtis discloses an indexing scheme in which an index file contains locations corresponding to a pre-determined range of characters . ***Importantly, Curtis does not teach or suggest query refinement by matching an original query term to a search concept term that is more closely related to the user's intent.***

Specifically, in contrast to the claimed invention, neither Woods nor Curtis teaches or suggests, "mapping [a] user query to one or more search concepts", as recited by independent claims 1, 9, and 28 of the present invention. The Examiner cites Woods (Fig. 1, element 30; Col. 4, lines 26-35) as teaching this limitation. Applicants respectfully submit that, rather than matching a query to a search concept, Woods discloses matching a query to a hit passage. **A hit passage is not similar to a search concept. A hit passage is a search result, and a query is matched to a hit passage *during search execution* (Col 6, lines 14-19). By contrast, a search concept is a query refinement. A query is matched to a search concept *prior to search execution* for the purpose of targeting the search to results that are closer to the user's intent** (Application, Paragraph 35). Thus, the disclosure in Woods of hit passages does not anticipate or render obvious the claimed invention.

Furthermore, neither Woods nor Curtis teaches or suggests, "displaying a list of the search concepts associated with the query", as recited by independent claim 1 of the present invention. In the Office Action, the Examiner states that, "Woods does not explicitly disclose [this step] (Office Action, Page 2, last paragraph)." However, the Examiner cites Curtis (Figs. 32A and 32B; Col. 25, lines 17-67) as teaching this step. As described above, Curtis

generally discloses an indexing scheme. However, the indexing scheme of Curtis is not similar to displaying search concepts. A search concept is a query refinement that matches a query term to a term that is more closely related to a user's intent (Application, Paragraph 35). By contrast, as defined by Curtis, index files are "arrays that contain locations (See Curtis, Abstract)." For example, an index may refer to an location of a record within a database (See Curtis, Col. 5, lines 17-32). *Thus, indexing discloses matching to a location rather than matching a query to a term that is more closely related to a user's intent.* Furthermore, even if an index was somehow construed to be similar to a search concept, claim 1 of the present application requires, "*displaying* a list of the search concepts associated with the query." Curtis does not teach or suggest displaying an index.

Additionally, in contrast to the claimed invention, neither Woods nor Curtis teaches or suggests, "using search concepts associated with the query to provide a set of improved search results", as recited by independent claim 28 of the present invention. The Examiner fails to state in the Office Action that either Woods or Curtis teaches or suggests this feature.

With respect to dependent claims 2 and 10, neither Woods nor Curtis teaches or suggests, "initiating a preferred query associated with at least one of the one or more search concepts to provide improved search results", as recited in the claims. However, the Examiner cites Woods (Col. 4, lines 36-45) as including this feature. Applicants respectfully submit that Woods (Col. 4, lines 36-45) merely discloses that a predetermined maximum number of hit passages may be stored in an output buffer. Storing hit passages in an output buffer is not similar to initiating a preferred query associated with a search concept.

With respect to dependent claims 3 and 12, neither Woods nor Curtis teaches or suggests "popular search concepts and wherein their relative popularity can be used to display a list of the search concepts in order of their popularity", as recited in the claims. However, the Examiner cites Woods (Fig. 4, step 12; Col. 6, lines 14-19) as including this feature. Applicants respectfully submit that Woods (Fig. 4, step 12; Col. 6, lines 14-19) merely discloses that a hit passage may be ranked based on the proximity of hit passage phrases that match query phrases. Ranking a hit passage based on a proximity of phrases is not similar to ranking a search concept based on its popularity, which is computed from the frequency with which the concept is repeated in queries over time (Application, Summary of the invention).

Applicants respectfully submits that dependent claims 4-8, 11, 13-17, 29 and 30 are patentable at least by reason of their dependency. Accordingly, reconsideration and withdrawal of the 35 U.S.C. § 103(a) rejections are respectfully requested.
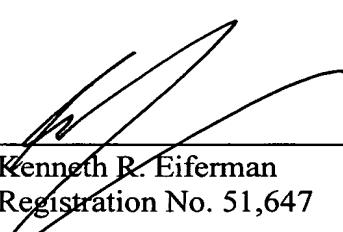
CONCLUSION

In view of the above remarks, Applicant respectfully submits that the present application is in condition for allowance. Reconsideration of the application and an early Notice of Allowance are respectfully requested.

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